

PROJECT REFERENCE NO. <b>R-5799</b>	SHEET NO. <b>UC-3D</b>
DESIGNED BY: <b>MRD</b>	
DRAWN BY: <b>SRW</b>	
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UTILITY CONSTRUCTION PLANS ONLY <b>DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED</b> UTILITY CONSTRUCTION	

# CITY OF BREVARD SEWER CONSTRUCTION DETAILS

**TRENCH FOR 15" & SMALLER PVC PIPE**  
NOT TO SCALE

REVISIONS	STANDARD DETAIL
DATE: 12/01/10 DESCRIPTION: ISSUED	S-1.1

**NOTES:**

- 1.) PVC PIPES REQUIRE #57 WASHED STONE PIPE EMBEDMENT MATERIALS.
- 2.) WHEN TRENCH IS SUBJECT TO INUNDATION, EMBEDMENT MATERIALS MUST EXTEND TO TOP OF PIPE.
- 3.) NO BOULDERS OR STONES WILL BE USED IN INITIAL BACKFILL.
- 4.) THIS DETAIL IS VALID FOR PVC SEWER PIPE INSTALLED AT DEPTHS OF UP TO 10 FEET.
- 5.) PVC PIPE NOT ALLOWED WITH LESS THAN 3'-0" COVER.
- 6.) WALL THICKNESS SHALL BE SDR 35.
- 7.) USE DIP FOR DEPTHS GREATER THAN 10'. RUN DIP FROM MANHOLE TO MANHOLE (NO TRANSITIONING OF PIPE MATERIALS WITHIN RUN)

**TRENCH FOR DIP PIPE**  
NOT TO SCALE

REVISIONS	STANDARD DETAIL
DATE: 12/01/10 DESCRIPTION: ISSUED	S-1.2

**NOTES:**

- 1.) MINIMUM ALLOWABLE DEPTH OF COVER IS 3 FT. (SEE DETAIL S-1.3 FOR MAXIMUM ALLOWABLE DEPTHS)
- 2.) IN ROCK OR WET SOIL, PIPE MUST BE BEDDED IN AT LEAST 6" OF CRUSHED STONED EMBEDMENT MATERIAL BELOW THE INVERT OF THE PIPE.
- 3.) GRANULAR MATERIALS ARE DEFINED PER THE AASHTO SOIL CLASSIFICATION SYSTEM (ASTM D2487) OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487), WITH THE EXCEPTION THAT GRAVEL BEDDING / BACKFILL ADJACENT TO THE PIPE IS LIMITED TO 2" MAXIMUM PARTICLE SIZE PER ANSI/AWWA C650.
- 4.) THESE PIPES ARE ADEQUATE FOR DEPTHS OF COVER FROM 3 FT. UP TO THE MAXIMUM SHOWN INCLUDING AN ALLOWANCE FOR A SINGLE H-20 TRUCK WITH A 1.5 IMPACT FACTOR UNLESS OTHERWISE NOTED.
- 5.) RING DEFLECTION LIMITED TO 3%, MINIMUM SAFETY FACTOR OF 2. EARTH LOAD BASED ON SOIL WEIGHT OF 120 PCF.

PIPE SIZE	PRESSURE CLASS	LAYING CONDITION				
		TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V
4	350	53	61	69	85	100
6	350	26	31	37	47	65
8	350	16	20	25	34	50
10	350	11	15	19	28	45
12	350	10	15	19	28	44
14	250	-	11	15	23	36
14	300	-	13	17	26	42
14	350	-	14	19	27	44
16	250	-	11	15	24	34
16	300	-	13	17	26	39
16	350	-	15	20	28	44
18	250	-	10	14	22	31
18	300	-	13	17	26	36
18	350	-	15	19	28	41
20	250	-	10	14	22	30
20	300	-	13	17	26	35
20	350	-	15	19	28	38
24	200	-	8	12	17	25
24	250	-	10	14	22	29
24	300	-	13	17	24	32
24	350	-	15	19	28	37
30	200	-	8	12	16	24
30	250	-	11	15	19	27
30	300	-	12	16	21	29
30	350	-	15	19	25	33
36	200	-	8	12	15	23
36	250	-	10	14	18	26
36	300	-	12	16	20	28
36	350	-	15	19	24	32

Source: Ductile Iron Pipe for Wastewater Applications, DIPRA 2008

**TRENCH CHART FOR DIP PIPE**  
NOT TO SCALE

REVISIONS	STANDARD DETAIL
DATE: 12/01/10 DESCRIPTION: ISSUED	S-1.3

**STANDARD MANHOLE**  
NOT TO SCALE

REVISIONS	STANDARD DETAIL
DATE: 12/01/10 DESCRIPTION: ISSUED	S-2.0

**MANHOLE NOTES:**

- 1.) MANHOLE STEPS TO BE VERTICALLY IN LINE WITH "INVERT OUT" FOR PIPE 18" AND LESS, OVER 18" TO BE LOCATED IN LINE WITH BENCH.
- 2.) FOR MANHOLES LARGER THAN 4 FT. DIA., MAINTAIN FULL MANHOLE DIA. TO 8 FT. ABOVE INVERT BENCH.
- 3.) FOR 5 FT. AND 6 FT. DIA. MANHOLES, USE A TRANSITION CONE TO REDUCE TO 4 FT. DIA.
- 4.) FOR 7 FT. TO 10 FT. DIA. MANHOLES, USE A TRANSITION TOP TO REDUCE TO 4 FT. DIA.
- 5.) INSTALL MASTIC ON MANHOLE LID WITHIN GROUT ON THE INSIDE AND OUTSIDE TO SEAL MANHOLES.

**FORCEMAIN CONNECTION TYPE I**  
NOT TO SCALE

REVISIONS	STANDARD DETAIL
DATE: 12/01/10 DESCRIPTION: ISSUED	S-5.0

**NOTES:**

- 1.) SEE ALSO SANITARY SEWER SERVICE DETAIL.
- 2.) SEE STANDARD MANHOLE DETAILS FOR ADDITIONAL NOTES.

**STANDARD MANHOLE FRAME & COVER**  
NOT TO SCALE

REVISIONS	STANDARD DETAIL
DATE: 12/01/10 DESCRIPTION: ISSUED	S-6.0

**NOTE:** WHERE M.H. IS IN ROAD SHOULDER AND ROAD DOES NOT HAVE CURB AND GUTTER, DO NOT USE ANCHOR BOLTS IN FRAME.

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